

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.(currently amended) A method of fabrication of a cavity (~~11,21,51~~) in a substrate (~~10,30,501~~) for a component for electromagnetic waves, the method comprising the step of: providing said cavity by removal of material from said substrate through immersing the substrate in a liquid bath of a chemical etchant, so that the produced cavity has a top and a bottom side and sidewalls, and said cavity at one of said top and/or bottom sides exhibits an opening with at least four sides having at least two different adjacent angles.

2.(currently amended) The method of claim 1, wherein said component further comprises a conductive layer arranged as a ground plane (~~12~~) covering said substrate, said ground plane being provided with at least one coupling slot (~~16,17~~) and at least one conductor (~~13,14~~), said ground plane being connected to a component element (~~11~~), which is inserted into said cavity (~~21~~) in said substrate.

3.(currently amended) Method of claim 1,

~~characterised in~~

~~that~~ wherein said substrate is made of ~~{110}~~ silicon.

4.(currently amended) Method according to ~~one of claims 1 to 3~~claim 1,
~~characterised in~~
~~that~~wherein said component is one of a filter, diplexer, resonator or matching
network.

5.(currently amended) Method according to ~~one of claims 1 to 4~~claim 1,
~~characterised in~~
~~that~~wherein said substrate is etched from both sides.

6.(currently amended) A component for electromagnetic waves, said component
comprising a substrate (~~10, 30, 50~~) provided with a cavity (~~11, 21, 51~~) being produced by
removal of material from said substrate by immersing the substrate in a liquid bath of a
chemical etchant, said cavity having a top and a bottom side and sidewalls,
~~characterised in~~
~~that~~wherein said cavity at one of said top and/or bottom sides exhibits an opening
having at least four sides and having at least two different adjacent angles.

7.(currently amended) The component of claim 6,
~~characterised in~~
~~that~~wherein said component further comprises a conductive layer arranged as a
ground plane (~~12~~) covering said substrate, said ground plane being provided with at least

one coupling slot (~~16,17~~) and at least one conductor (~~13,14~~), said ground plane being connected to a component element (~~11~~), which is inserted into said cavity (~~21~~) in said substrate.

8.(currently amended) The component of claim ~~6 or 7~~,

~~characterised in~~

~~that~~wherein said substrate is made of {110}-silicon.

9.(currently amended) The component according to ~~one of claims 6 to 8~~claim 6,

~~characterised in~~

~~that~~wherein said component is one of a filter, diplexer, resonators or matching networks.

10.(original) The component of claim 7,

~~characterised in~~

~~that~~wherein said conductive plane is made of a metallic layer.

11.(currently amended) The component of claim 6,

~~characterised in~~

~~that~~wherein said cavity is arranged in a resonator arrangement ~~(50)~~ with coplanar waveguide (CPW) couplings, comprising said substrate ~~(501)~~ with micromachined through cavity ~~(51)~~ with electroplated surface ~~(59)~~.

12.(currently amended) The component according to ~~one of claims 6 to 11~~claim
6,

~~characterised in~~

~~that~~wherein said cavity is made through preferential etching from the both sides of the substrate, having said sidewalls perpendicular to the surfaces of the cavity.

13.(currently amended) The component of claim 6,

~~characterised in~~

~~that~~wherein said substrate is enclosed within a housing ~~(502)~~ of dielectric material.

14.(currently amended) The component of claim 10,

~~characterised in~~

~~that~~wherein microstrips ~~(53,54)~~ are arranged on a cap ~~(52)~~.

15.(currently amended) The component according to ~~one of claims 7 to 15~~claim
7,

~~characterised in~~

~~that~~wherein said cavity has a length, $n\lambda$, where $n = 1, 2, \dots$, wherein λ is the wavelength.

16.(original) The component of claim 11,
~~characterised in~~
~~that~~wherein the components is provided with low CPW or Coplanar Strip (CPS) waveguide input and output-coupling networks.

17.(original) The component of claim 14,
~~characterised in~~
~~that~~wherein the cavity is rhombus shaped while end sections of said strips are angularly arranged relative cavity edges.

18.(original) The component of claim 14,
~~characterised in~~
~~that~~wherein end sections of the strips follow cavity edges, i.e. they have same angle as the cavity edges.

19.(currently amended) A method of fabricating a component according to claim 8, comprising the steps of:

- providing a conductive plane,

- arranging the conductive plane with coupling openings through milling,
- providing a microwave element on a first surface of said conductive plane,
- providing a dielectric layer on a second surface of said conductive plane,
- arranging microwave conductors on the dielectric layer,
- providing a silicon wafer with $\{110\}$ -orientation
- exposing selected areas on said silicon plate to wet etching until cavities of desired depth are produced,
- covering (electroplating) the etched surfaces by a conductor, and
- attaching said conductive plate to said silicon plate, e. g. by means of anodic bonding.